

editions, one with hill-shading and one without. The only general map previously published was that of Collegno, in 1846, on the scale of 1 : 2,000,000. A glance at the two maps will show the immense advance which has been made in our knowledge of Italian geology since that date.

The map in question is coloured in accordance with the scheme recommended by the Italian Map Committee of the International Geological Congress. The Italian committee (like the English) prefer to retain some shades of red for the Trias. The Congress however, chiefly influenced by the wishes of Germany, proposes to colour this violet, as the natural base of the Secondary series; the Jurassic beds being coloured blue. The Italian Survey is desirous of adopting for its future maps the scheme of colouring upon which the Congress may decide. The Indian Survey also, being now about to publish a connected series of maps, wishes, if possible, to do the same.

We have little doubt that the geological map of Europe, now being prepared by the Map Committee of the Congress, will be so drawn up and coloured as to form a scheme of colours which can, with only small modifications, be adopted by all.

W. TOPLEY

### NOTES

A COMMITTEE has been formed at Reggio (Emilia) to collect funds for establishing a fitting monument to the memory of the Padre Secchi, in the form of a fine refractor, of which the objective is to have 70 centimetres diameter. Reggio thus follows the example of Arcetri, where a fitting scientific monument has been erected to the memory of Galileo.

THE Honorary Degree of LL.D. has been conferred by the University of Cambridge on Thomas Sterry Hunt, F.R.S.

M. COCHÉRY intends to spend the surplus of the Electrical Exhibition, which is said to exceed 16,000*l.*, in establishing a research laboratory for electricity.

M. PAUL BERT, the new French Minister for Public Instruction, is said to be a candidate, in the section of Medicine, to fill the place vacated in the Academy of Sciences by the recent death of Dr. Bouillaud.

It is painful to have so often to animadvert on what must look like parsimonious treatment of science on the part of our Government. Its almost contemptuous treatment of the Electrical Exhibition and of the British Commissioners has called forth the strongest criticism; and under our Geographical Notes to-day will be found another instance of a similar kind. Lord Aberdare, who, as president of the Geographical Society, went to the recent Venice Congress as commissioner of that body, referred "to the miserable show made by this country at the Exhibition, which was solely due to the parsimony of the Treasury, who did not even pay the travelling expenses of the British Commissioners, and merely sent 100*l.* to the Vice-Consul at Venice for petty disbursement." Of course our Government had no intention of insulting the Congress and the Geographical Society; but such treatment of an International Congress on the subject in which this country is so practically interested, must seem strange to good-mannered foreigners. Our Government ought really to consider earnestly their position to such enterprises as those referred to; it is too late in the day for even England to despise anything that tends to the promotion of science.

A BRILLIANT *fête* was given at Berlin on the evening of November 19 in honour of Prof. Virchow, in the Hall of the Rathhaus, which was handsomely decorated for the occasion. About 1000 persons were present, chiefly belonging to the scientific and medical world. Prof. Bastian presided, and after calling for cheers for the Emperor, he presented the title deeds of the Virchow Institute for promoting anthropological studies, according to Prof. Virchow's own directions, and for which a

sum of 70,000 marks has been collected from the various countries of Europe. Speeches were then made by the leaders of the thirty deputations present, which included representatives of the medical faculties of Aberdeen, Basle, and Charkoff, and the medical societies of St. Petersburg, Vilna, &c. Finally, a deputation from Schivelbein, in Pomerania, Prof. Virchow's native town, presented congratulations to the Professor, who returned thanks with great emotion. A supper followed, and the guests did not separate till a late hour.

THE death is announced, at the age of eighty-three years, of M. Camille Sébastien Nachet, the founder of the well-known firm of Nachet et Fils, opticians, Paris. M. Nachet, during his long career, did much for the improvement of the manufacture of lenses, and especially of microscopes.

WE regret to announce the death of Dr. Karl Peters, Professor of Mineralogy and Geology at Graz University, and author of numerous scientific papers, who died at Graz on the 7th inst. aged fifty-seven years. The death is also announced of Dr. Kar Fortlage, Professor of Philosophy at Jena University, at Jena on November 8, aged seventy-five.

THE Paris Municipal Commission has resolved to illuminate successively the Council Hall with five different electric lights, to determine the price of each, and make a choice amongst them. These five have been selected out of all the systems exhibited. The Swan and Brush systems are two of those selected for the competition. Electricity will be also used for moving an elevator of the kind exhibited by Mr. Muirhead, and a press for printing the papers used by the Council.

EARTHQUAKES have been rather prevalent on the Continent during the past week. Between five and six o'clock on the morning of the 16th three shocks were felt in Switzerland. Two were of some violence at Mendrisio, in the canton of Tessin, and one less severe in Berne and the Bernese Oberland. On the same morning, at seventeen minutes past five, a slight earthquake shock was felt at Naples, lasting three seconds. Its direction was south-east. At dawn a shock was felt at Cosenza. Two shocks were also felt throughout the province of Catanzaro at six o'clock in the morning. On the 18th at five a.m. several smart shocks were felt over the greater part of Eastern Switzerland. The centre of the disturbance seems to have been in the canton of Zürich and the Oberland of St. Gall, where the oscillations were very marked and frequently repeated. Shocks were also felt on the Friday night along the Valley of the Lower Rhine, at Coblenz, Bonn, Cologne, Aachen, Elberfeld, Barmen, Crefeld, Essen, Düsseldorf, and Duisburg, a distance of over 100 miles. There were two violent vertical shocks lasting five seconds, then wave-like tremors in the direction of north-west to south-east.

OUR Vienna Correspondent writes that shocks of earthquake occurred at Izentes and at Izarvas (Hungary) on October 28, at 4 a.m. On November 5 shocks were experienced at different places in Carinthia, viz. at Klagenfurth a perpendicular shock was felt at 9.37½ a.m.; it was followed by slight undulatory movements in the direction west-east, lasting four seconds. At Moosberg and Paternon several shocks were felt at 9.45 a.m.; direction, south-west to north-east. The shock was also felt at Villach at 9.40 a.m.; direction, south-north; at Ober-Vellach at 9.40 a.m., south-north. At Emünd four shocks occurred; the first, at 10.5 a.m., being so severe as to cause people to rush out of their houses in fright, chimneys were thrown down and the walls of some houses damaged; duration, four seconds; direction, north-south. At Spital (on the Drou) also four shocks were felt; duration, nine seconds; direction, from east-west. From Sachsenburg and Reichenan also the occurrence of shocks is reported at 9.30 a.m. at the former, and 9.45 a.m. at the latter place: the movements lasted

from four to five seconds; direction, north-east to south-west. The centre of the earthquake mentioned above seems to have been in the neighbourhood of the Millstädt Alp. At the same time earthquake-shocks were felt at Stuben, Langen, Pöhtnen, Flirsch in Vorarlberg, and at Murau and Obdach in Styria. In Switzerland shocks of earthquake occurred on November 14, at 3.35 a.m., at Villeneuve, Rivaz, Bouveret, and between five and six o'clock in the morning at Seewen, Berne and its environs.

A CORRESPONDENT of the Swiss *Bund*, writing from Vevey, says that on the morning of the 14th a large meteoric stone, which seemed to come from a point in the Hautler directly over the mountains on the Savoyard side of the Laste, fell with a tremendous report in the market-place of Vevey. It was sufficiently large to have crushed any house upon which it might have chanced to alight.

DR. T. S. COBBOLD exhibited (at the Linnean Society's meeting, November 5) under the microscope about a hundred eggs of *Bilharzia hamatobia*. They were taken from a gentleman who had just arrived from Egypt, and who was the victim of hæmaturia, supposed to have been contracted during a shooting expedition. By adding water nearly all the eggs were hatched during the meeting of the Society, and a rare opportunity was thus afforded of witnessing the behaviour of the newly-born ciliated animalcules.

THE first step in the construction of a line of telegraph in China has been taken. On September 19 the line between Shanghai and Chinkiang on the Yang-tze River was opened, and congratulatory telegrams exchanged between the authorities in the two places. The remainder of the line to Peking was expected to be completed within two months after that date. The cable, about two miles in length, was successfully laid across the Yang-tze, and the line on the north of the river is now being rapidly pushed forward, following the line of the Grand Canal. Several other short cables will have to be laid across the larger creeks before the work is completed. With the exception of a line a few miles in length, between Woosung and Shanghai, which is the property of the Great Northern Telegraph Company, this is the first telegraph line laid in the Chinese Empire. When popular prejudice is once overcome, the extent to which telegraphs may be employed in China is incalculable.

It is stated that the Chinese Government have taken measures for the immediate removal of the bar at the mouth of the Shanghai River, which has so long been a serious obstruction to navigation. At certain states of the tide ocean-going steamers are forced to remain in an exposed situation outside this bar, and all the efforts of the Foreign Ministers and mercantile communities to obtain its removal have been hitherto ineffectual. This is another example of the change which is coming over the Chinese counsels. *Apropos* of this we may mention that the ninth vessel constructed by the Chinese has just been launched at the Kiangnan Arsenal. It is a screw steamer of about four hundred tons, and is intended for the repression of smuggling and piracy. The vessels already built at the Arsenal are two frigates, four gunboats, a sailing ship, and an ironclad.

AMONG the numerous publications of the Imperial Maritime Customs of China, none are of more general interest than the half-yearly reports of the Customs medical officers. They deal, as might be expected, with various forms of disease among foreigners in China. The twenty-first number has recently been published. The writers are scattered all over the vast empire of China, from Newchwang in Manchuria to Canton, at various stations on the Yangtze, and in Formosa. The latest issue contains papers on *Filaria sanguinis hominis* in Southern Formosa, on *Trichinia spiralis* in Chinese pork, and on skin diseases. This last is especially important, as one of the principal objections to Mongol immigration is the quantity of disease

which follows. The Hawaiian Archipelago is said to suffer severely from diseases such as leprosy, small-pox, syphilis, measles, &c., which are all foreign to the islands, and have been introduced wholly by the immigrants. These papers certainly deserve more attention than they seem as yet to have received in this country.

THE disordered condition of the domestic affairs of Turkey has not prevented the Government finding leisure for the reform of its system of weights and measures. The new system which will replace the old clumsy method of computation will come into force on March 1 next, old style. It is strictly metrical, and applies to measures of length, square measure, and capacity. The measure of length will be based upon the archine, which is exactly equal to the French metre.

IN sinking for a stand-pipe for boring operations, the *Colonies and India* states, the Kilcunda (Victoria) coal prospecting party found the skeleton of a kangaroo at a depth of 28 feet. Instructions were given by the Mining Department to preserve the entire skeleton, and the jawbone was sent to Prof. M'Coy, who states that it belongs to a new species of an extinct genus of kangaroo, and indicates that the deposit which was found is of the pliocene tertiary age. The Professor says the discovery is a very interesting one, and will form a valuable addition to the public collection.

ON October 10 a fine fata morgana was observed at Rügenwalde (Pomerania). During the afternoon of that day a northern village with snow-covered roofs, from which icicles were hanging, was seen for about an hour. Human forms are also said to have been distinctly recognised. It is believed that Nexö, on the Island of Bornholm, was the village reflected.

AT the last meeting of the Linnean Society Mr. Frank Crisp was elected treasurer, and Sir John Kirk a member of the Council, to fill vacancies caused by the death of the late Mr. F. Currey.

THE great lava flow from the Mauna Loa (Hawaii), which lasted no less than nine months, has at last stopped. It began on November 5, 1880, and until August 31 last the lava had run a distance of 96 kilometres, from the summit of the volcano (which measures 14,000 feet in altitude) down the eastern slope, almost as far as the sea-coast. The town of Hilo was in the most threatening danger of being destroyed. Fortunately the force of the eruption was exhausted and the flow of lava stopped within a few thousand yards from the town. This eruption was the most colossal one ever recorded in Hawaii.

THE report of the Indian Commissioners shows the present number of Indians in the whole country, exclusive of Alaska, to be 261,912, all of whom, except 15,416, are more or less in charge of agents of the Government.

THE Conservatoire des Arts et Métiers of Paris has been removed from the Department of Trade and the Colonies and transferred to the Ministry of Fine Arts. The reason of this change is obviously the intention of developing technical education among French working men.

THE flashing system of telegraphy has been so successful in Tunis that the insurgent Arabs are powerless to stop regular correspondence between the several corps of the French army. The same system is used in Oran, province Algeria, in the pursuit of Bou Amena.

THE *Journal* of the North China branch of the Royal Asiatic Society for 1880 contains a long paper by Dr. Bretschneider, of the Russian Legation at Peking, on Early European Researches into the Flora and Fauna of China, and one by Dr. Bushell, of the British Legation, on the Coins of the Present Chinese Dynasty.



AN interesting cave has recently been discovered in the Bela Lime Alps, which form the north-eastern part of the Tatra Mountains. From the Kotlin valley the cave can be reached in about an hour. During August and September last the inhabitants of Bela thoroughly investigated the cave. The entrance is formed by a shaft about fifteen metres long and only one metre wide. After having passed this torches must be lighted. The cave contains fine white stalactites and stalagmites, large subterranean lakes and ponds, which obtained for it the name of "Seehöhle" (lake cave). A number of bones of prehistoric animals were found. It appears however that the cave was known to the neighbouring inhabitants about the years 1713 and 1731, and was then forgotten. German names with these figures underneath were in one part found scratched upon the rock.

ON September 1 an Aëronautical Society was founded at Berlin under the presidency of Dr. Wilhelm Angerstein. The new Society grows rapidly, and it is the intention of the Committee to hold an aëronautical exhibition next year.

THE additions to the Zoological Society's Gardens during the past week include a Moustache Monkey (*Cercopithecus cephus* ♂) from West Africa, presented by Mr. Frank G. S. Laye; a Bonnet Monkey (*Macacus radiatus* ♀) from India, presented by the Rev. R. H. Manley; two Herring Gulls (*Larus argentatus*), European, presented by Mrs. Greaves; two Chilian Sea Eagles (*Geranoetus melanoleucus*) from South America, a Red-breasted Merganser (*Mergus serrator*), a Guillemot (*Uria troile*), a Bar-tailed Godwit (*Limosa lapponica*), British, purchased.

#### GEOGRAPHICAL NOTES

ON Monday week Lord Aberdare opened the fifty-second session of the Geographical Society with a brief address, in which he dealt first with the expedition of Dr. Matteucci and Lieut. Massari across Africa. He next referred to the geographical papers read at the York meeting of the British Association, and afterwards dwelt at some length on the International Geographical Congress at Venice. According to Lord Aberdare's view it is a great mistake to mix up exhibitions with these congresses, as, owing to international jealousies, it becomes necessary to withdraw the best men from the sections of the congress to serve on the juries of the exhibition. Lord Aberdare referred particularly to the miserable show made by this country in the Exhibition, which was solely due to the parsimony of the Treasury, who did not even pay the travelling expenses of the British Commissioners, and merely sent 100*l.* to the Vice-Consul at Venice for petty disbursements! The latter part of the address was chiefly devoted to the Arctic expeditions of the *Jeannette* and the *Eira*, and we are glad to notice that so much confidence is felt regarding the safety of Mr. Leigh Smith's party. Mr. F. A. A. Simons afterwards read a paper of considerable geographical interest on the Sierra Nevada de Santa Marta and its watershed, and he certainly has thrown much light on this almost unknown region, *i.e.* in the north-west corner of South America. The water-system, which Mr. Simons was at much pains to explain clearly, consists of the Rio Cesar, with its affluents, the Rio Rancheria and others falling into the Caribbean Sea, and the two large rivers which form the Grand Cierraga. Mr. Simons, who has spent some three and a half years in the country in natural history researches, has already contributed to the Geographical Society's *Proceedings* a paper on the topography of the Sierra Nevada, so that its geography can now be well understood through his labours.

SOME further details of the interesting discoveries made by the search ship *Rodgers* in and about Wrangel Land are given in the *Times*. It appears that the *Rodgers*, after leaving St. Lawrence Bay, passed through Behring Straits, and effected a landing on Herald Island on August 24. Having left records of her visit there, she steamed for Wrangel Land, which she reached on the evening of August 26. Finding a safe harbour, she despatched parties to the eastern and western coasts in search of cairns or traces of the *Jeannette*. Capt. Berry, who commanded the land party, reached a mountain 2500 feet high, from which he saw open water around the island everywhere, except between

the west and south-south-west, where a high mountain seemed to terminate the land. Master H. S. Waring went round the eastern coast and northern side, and being blocked by ice had to return by land to the ship. Ensign Hunt went by the western coast and reached the ice which had blocked Waring, and found it impenetrable. He had passed to the northern side, and could see Waring's position, so that the entire island had thus been skirted. No traces of the *Jeannette* were found. The *New York Herald* correspondent says that he was "surprised to see the ice moving constantly to the westward along the shore, where, according to a natural supposition, the wind would blow it off. Sometimes when he went to bed he would see the pack ice filling the sea as far as the eye could reach, and the next morning when he went on deck he would behold a vast expanse of open water." Wrangel Land is now said to be about sixty miles long, and there is a current at the northern end of it running to the north-west, at the rate of about six knots an hour. At the south-east of the island the ice was observed to be drifting in a northerly direction, at the rate of about two miles a day. From all this it is inferred that the *Jeannette*, which was last seen in September, 1879, steaming towards Wrangel Land, did not reach that island, and that either she was caught in the pack, and is being carried by the current in a northerly direction, at about the 172nd meridian, or that, finding the sea open, as the *Rodgers* did, she has been induced to leave the land, and has taken advantage of open leads through the ice, and has sailed northwards into unknown space. Efforts are still being made to search for her or her crew if they have abandoned their ship. The *Rodgers* will winter at St. Lawrence Bay off Kotzebue Sound, on the Alaska coast, and will in the spring make further search. The American observation party have reached Point Barrow, where they will winter, and where they will have opportunity of searching among the wreckage, which is so often washed on that shore, for any records of the missing ship.

LIEUT. A. HOVGGAARD, who was on Prof. Nordenskjöld's staff in the memorable *Vega* expedition, is trying to start an expedition in search of the *Jeannette*. Hovgaard thinks of sailing in the same track which was pursued by the *Vega*, in order to prove that the Kara Sea is perfectly navigable, if the necessary precautions are taken. He intends to winter at Cape Chelyuskin, in order to make scientific and principally meteorological observations. He has already received numerous contributions for this purpose from his Danish compatriots.

COUNT WALDBURG-ZEIL has safely returned from his Arctic expedition, which had for its object the establishment of a regular steamship service between Bremen and Siberia. His ship *Luise* encountered considerable difficulties; nevertheless the Count is of opinion that a regular service will be possible and remunerative. The *Dallmann*, the second ship of the Count's expedition, was left behind at the Yenisei estuary, where it will remain during the winter.

THE German paper *Ausland* publishes a letter from the German traveller Dr. B. Hagen, dated from Tandjong Morawa, to which he had returned from his excursion into the interior of Sumatra. He travelled through the Northern Batta districts, hitherto almost entirely unknown, and then across the plateau of Northern Tobah as far as the great Tobah Lake. The traveller was well received everywhere, and only the eternal wars between the several villages impeded and delayed his progress. His collections of anthropological, ethnographical, zoological, and particularly of botanical specimens are very large. The fauna and flora on the Tobah Plateau, as on all tropical high plateaux (such as Java, and even in Japan), resemble those of Europe.

NEWS from Zanzibar state that the Belgian expedition under Mr. Rogers left for the Congo on October 20 last, 135 natives accompanying it.

UNDER the Chefoo Convention, negotiated by Sir Thomas Wade with the Chinese authorities in 1876, it was agreed that a British officer could reside at Chung-king, in Sze-chuan, on the upper waters of the Yangtze. The gentleman at present stationed there, Mr. E. H. Parker, of H. M.'s Consular Service in China, seems to have made good use of the opportunities thus afforded him of investigating this comparatively little-known district. Under the title of "Short Journeys in Sze-chuan," he has contributed to recent numbers of the *China Review* an account of his travels in the province, together with observations on its trade, customs, geography, &c.